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ABSTRACT

The developing child and his/her eco-social-cultural context is the focus of study of 28 children ages 0-3 years in the rural area of Cocal, Piaui in Northeast Brazil. Ethnographic methods, naturalistic observations and semi-structured interviews were used to ascertain the physical context (the house and its surroundings), as well as maternal work/breastfeeding routines and their effect on weaning, the child sleeping with or away from the parents at night, the particulars of toilet training in this environment, the child caretaking network, and questions of child autonomy as part of the larger social pattern. Results suggest that: (1) this is an ecosystem which still operates in an integrated manner, but already shows signs of acculturation; (2) the lack of social support during the severe droughts is contributing to family disintegration; (3) and the child is not expected to develop autonomy and the be capable of self-determined transformation actions, thus reproducing the parents' life conditions. (MT)

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Lifestyle, Dwelling Conditions and Daily Routine as Qualitative Indicators of Infant Development: A Study of 0-3 years old children from rural Brazilian Northeast

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Abstract The unity of analysis in this study is the system formed by the developing child and his/her eco-social-cultural context. The study was conducted with 28 children aging 0-3 years old from 20 households in the rural area of Cocal, Piauí. This dry area is located at the northeast part of Brazil, one of the poorest of the country. Ethnographic methods, naturalistic observations and semi-structured interviews were used in order to describe the physical context (the house and its surroundings), the feeding, sleeping and toilet routines and some of the parents' representations about them. The main results were: 1.The breastfeeding routine was strongly associated to the mothers' working schedule as coconut breakers, varying between anticipated, *ad lib* and time-scheduled feeding, the combination of two of these schedules often resulted in delayed weaning; 2.Parents argued that sleeping next to the baby in the hammock was the most adequate practice for night care and to strenghten parent-child bonds; 3."Toilet" "training" was facilitated by imitation and by the physical conditions (warm climate and soil floors); 4.Caretaking was provide by a network of mothers, grandmothers and older children; 5.Although the children was precociously independent, autonomy was not valued as children under five are thought "to lack understanding". Results suggest that: 1.This is an eco-system which still operates in an integrated manner, but already shows signs of acculturation; 2.The lack of social support during the severe draughts is contributing to family desintegration; 3.The child is not expected to develop autonomy and to be capable of self-determined transformation actions, this reproducting the parents' life conditions.

Key-words. Child development; developmental context; dwelling ; sleeping; feeding; toilet training; household; brazilian rural developmental niche

It is possible to think of development as life itself (Oyama,1989). Every kind of development occurs in a context that, at the same time, gives meaning to it through systems of beliefs, and contains it, through the interactions it (the context) provides. Development and context form an integrated whole from which the concrete manifestation results: the developing child.

Whiting (1980) has shown that the main regulators of the child's social context are the ecological variables of subsistence, which determine not only the size and composition of the group, but also its daily activities. According to Dasen (1991), individual behaviour is determined, at least partially, by culture, which is the group's reaction of conformity to the ecological, social, economic and historical conditions. The links between the group's characteristics and the individuals' behaviour imply processes of genetic transmission, cultural transmission, ecological influences and enculturation.

The model of "developmental niche" (Harkness, 1992) is a theoretical framework to the psychology of development, compatible with the above mentioned ecocultural model.

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According to Dasen (1991), it illustrates particularly well the notions of socialization - the set of voluntary and conscious attempts to make an individual conform to the social norms - and of enculturation - which equally includes all the unconscious attempts, allowing an integration between psychology and cultural anthropology, as this model considers the individual inside his/her context as the unity of analysis.

The developmental niche has three components, all of them culturally determined: physical and social contexts of daily life; the culturally regulated habits of cares, or the educational practices; and the caretakers' psychology, that is, the social representations of development and of education. These three parts interact and form a system which is open to the exterior, adapting itself to the ecological and sociohistorical conditions.

In a previous study (Siqueira, Oliveira, Rabinovich and Santos, 1992) with children up to one year old from the urban area, the microsocial context was regarded as being composed of the environmental context - the house -, the relational context - the relation mother/adults - child, and the social context - the neighbourhood, the community. The study concluded that the central object of the environmental approach, within an amplified conception of developmental system, is to transfer the study of the child to the trinomial child - family - society. According to that study, only within this approach is it possible to promote family integration in such a way that this first social nucleus can contain the demands pertaining to each moment of development through which a child goes, making him/her able to live inside a given social context.

The present study aimed to describe the physical context - the house and its surroundings; the educational practices related to feeding, sleep and sphincter control; and some of the parents' representations of these practices - of children up to three years old from a rural area located in the northeast of Brazil, state of Piaui. It intended, in an exploratory way, to provide subsidies for the understanding of the "developmental niche" of children from the northeast rural area.

The subjects of the research were 28 children aged between 0 and 3, their houses and their families, in a total of 20 houses and 22 families. All the dwellings were situated in the rural area of the town of União, Piaui.

União is 35 miles far from the city of Teresina, the capital of Piaui. It is situated in a region where the climate is hot, almost arid, in the Zone named *Cocal*[2] due to the presence of the *babaçu*[3], on whose cycle depends the economy of the region.

Three researchers, together with two local community leaders, visited the twenty houses. A systematic study was carried out, using the following instruments: Scheme for the observation of the house; Semi-structured interviews about the family; semi-structured interviews aiming at obtaining information about the child, about how the house is used by the dwellers, about the educational habits practiced in the house, about how the two previous questions affected the way in which the child is raised, about how the parents represent these practices; Video-filming of the house and, if possible, of the child in daily activities; Photographs of the house.

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[2] From the Portuguese word "Coqueiro" (palm tree).

[3] A large palm native to northeastern Brazil and highly prized for its several products, especially the oil extracted from the nuts.

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Lifestyle and dwelling conditions

136 persons lived in the 20 houses visited. The average number of inhabitants per house was 6.8, with 14 houses having 3 to 8 inhabitants, 2 with 10, 2 others with 11 and one with 16 inhabitants. There were 3.9 children per house, totalling 78.

The ages of the men ranged from 18 to 92, 45% being below 30. There were two 17 year old mothers, one of these being single out of a total of two single mothers. 65% of the women were below 30.

There were 28 children in the age group 0 - 3 years (36% of the total), with 13 boys and 15 girls. 48% of the children were in the 4 - 9 age group. The study group consisted of 7 children from newborn to 4 months, 8 from 5 to 12 months, 8 from 1 to 2 years, and 5 from 2 to 3 years.

15 adults (25%) were illiterate, all except 3 being more than 30 years old. The others, including all the children of school age, had attended or were attending school. The average schooling of the men was fifth grade and of the women fourth grade. 3 children had stopped attending school and only six (14%) were in grades equivalent to their age group. 6 children were in nursery schools.

The men worked in the fields, except for six: a butcher, an employee of the Highways Department, an employee of the telephone exchange, a tractor mechanic and two employed by a sugar company. From what we were able to discover about their means of subsistence, when the men did not have regular work, they did odd jobs. At the time of the study several were working in government emergency work schemes.

In the fields the men worked "on account", renting the land from the owner and paying him "90 kg per line"of what they produced. The boys helped their fathers from the age of 10, as did the women at harvest time. The produce of work in the fields appeared normally to be for domestic consumption.

Few women answered that they worked, though almost all (12) did so, splitting coconuts and extracting the oil. One woman sewed and another taught in the nursery school.

A girl might start "helping with the coconuts" at four and a half years, as a kind of training for adult life. "They go into the forest with a miniature 'cofo' (a basket for carrying coconuts, woven from babaçu palm). Our husbands make the cofos for them". The women's work, like that of the men, continued till they were 70 - "as long as they can". At four and a half a girl can also start to help in the house and look after her brother.

A woman carries out the following daily tasks, there being no difference between weekends and weekdays: fetches water from the well, cleans the house, harvests coconuts in the babaçu plantation and splits the nuts there or at home, harvests rice or beans, makes coconut oil, cooks, washes clothes, waters the plants, makes 'farinhada' (manioc flour) and looks after the children. When she goes harvesting she leaves at 7 in the morning and gets back at 5 in the afternoon, splitting the coconuts in the plantation to make them easier to carry. After which she prepares a meal for the family.

When times are difficult and the man cannot find work, which happened to be the case at the time of this study, the woman may assure the "começão" (food), bartering the coconuts she

has harvested with the shopkeeper for rice and beans for the children. She may harvest and split as much as 10 to 19 kg of coconuts per day, "when she manages", that is at the time of year when the harvest is easy. She walks three or four kms to the plantation, carrying her cofo. She gathers the coconuts from the ground or beats the tree with a babaçu palm leaf stalk to make the nuts fall.

Some of the men earn from one to one and a half minimum wages but the majority do not earn the minimum wage. A woman earns less than US$1 per day splitting coconuts.

All the families bought the same items: beans, sugar, rice salt, coffee, soap, matches, pot scourers. If they had any money left over, clothes and medicine. And meat, when possible.

In 12 households the money was managed by the man only: he made the choice, he took the decisions, he made the purchases. As one of them said, "there is no 'neediness' for a woman to leave the house; outside the home is a man's business". However, in some households there was an exchange of ideas, with the woman saying what needed to be bought. Only one couple admitted that they decided together how to spend their money.

They normally eat three meals a day: breakfast, which consists of just a cup of coffee, perhaps with "beiju" or "cuscus" (local dishes) if possible; lunch and dinner of rice and beans. Sometimes there are vegetables, that is shallots and peppers, and meat from once to three times a week, when possible.

The food is prepared by the mother or the eldest daughter. It is normally served by the mother from the pot onto the individual plates, according to each one's needs. Each member of the family has a plate and a spoon. The adults sit at the table and the children on the floor. As long as a child is small, her mother feeds her from her own plate, with the child on her lap. When the child is bigger, she eats sitting on the floor with the others, or, if she prefers, sitting at the table - normally at about four years old. Sometimes they put together a bench and a chair for the children to eat from.

There is a definite meal time, in the sense that they all eat together, except for the men if they are at work.

Almost all the villagers were born in the village or nearby; only three men and one woman were not born in the state of Piaui. Sixteen of the families had no plans to move elsewhere. The two families who planned to move were young couples who were living with their parents. One father of a family left for the South and abandonned his wife and five children.

Four families had lived for from one to three years in their house, and the rest for more than seven years. This is the case because they are part of extended families or have relatives living nearby, that is to say, they live there because of family ties which makes them stable. There were three communal groups, with one piece of land occupied by several families. Six were extended families, in other words with more than one family per house, and the rest had relatives as neighbours or living nearby.

Twelve families lived on plots of land ceded to them by the landowner, but only two in houses which belonged to the landowner. One family said they helped the landowner with the grape harvest, the others said they paid nothing.

The houses are built as follows: 'taipa' walls, made of babaçu palm stalks covered and filled with a mixture of mud and small stones, which were left unplastered (12), plastered (7) or whitewashed (4); roofs of thatched babaçu leaves (17); floors of beaten earth (20) although some houses had floors of cement (2), baked bricks (1) or tiles (1). The fences were made of babaçu wood.

The rooms were high because of the way they were built, with uncovered roof beams and no ceilings. This type of construction meant that even with temperatures of above 40° the houses were relatively cool and pleasant.

Thirteen of the houses had a fence at the side, with the front door opening directly onto the street. These fences marked the boundary of the plot, which was usually large, ranging from 700 to 1,500 m^2, but they did not fence the whole area. The landowners did fence their land. There were four houses with no fence. The others houses had no fence. The front door of every house was kept open.

Although the soil was sandy, there were many shade- and fruit-trees.

Fourteen houses had electricity and six used lamps. Two households drew water from the "chafariz", a public water supply from a deep, tubular well, with clean but untreated water. Eight houses had their own wells, of a type called "cacimbão", which was half way between a tubular well and a "cacimba".These always had water, but less in summer. Five families used their neighbour's well. In Bananal the water came from "cacimbas", wells dug in water-logged land, without a lining, which disappeared in winter when they were covered by the stream. In this region, the drawing and use of water caused very great problems because of the distance from the well and the muddiness of the water.

Garbage was either thrown into the bush (7), onto the rubbish heap and burned (5), or into the "barreiro", a pit which was dug and then filled in when full (8).

Eleven houses had a "bathroom", situated outside the house and consisting of an area of 3 m^2 closed by babaçu mats, where there was a piece of car tire as a receptacle for water and, in many cases, a large stone. The "bathroom" served three purposes: for bathing, urinating and washing clothing. Three houses had a "sentina": ouside the house, there was an taipa structure with a thatched roof, without a door, and with concrete slab with a hole over a pit, which was used for evacuation. The community built "latrinas", a cement cubicle with cement-asbestos roof, with a hole over a pit. However, the beneficiaries of this innovation rejected it, on grounds of hygiene, insects and because it was "very exposed". In general, except for three households, evacuation was carried out in the bush, both by adults and children.

The houses had no security problems, although they were situated on the road (8), by open wells (4), dangerous animals (2), a stream (1), snakes and centipedes (4).

The houses measured from 27 m^2 to 137 m^2, the average being 55 m^2. Each house was very clearly laid out on functional lines, with well defined areas for the living room, bedrooms and kitchen. The rooms were about 3 x 4 m in size, with the living room a little bigger and the kitchen a little smaller. There were two bedrooms on average per house. In one house the living room and bedroom were combined and in another the living room and the kitchen.

There were very little furniture and objects, all of them for use. All the houses had tables with stools, normally with fewer of the latter than the number living in the house. Sometimes suitcases (11) were used to hold clothes, together with cardboard boxes and plastic bags. Their possessions were mostly hung on the walls, leaving the floor space free for circulation. The hung hammocks and the little furniture "mobiles" facilitated a polyvalent use of the interior space of the house.

All the houses had clay ovens, burning babaçu charcoal, which was also made by the women. The charcoal is made in a hole dug in ground, filled with coconut husks which are set alight and then covered. There were three gas cookers, each next to a clay oven, one already disused.

Everyone slept in hammocks except eight couples (out of a total of 25) who had a double bed and three mothers who slept in single beds. Two babies had cradles. The justification given for the single beds and the cradles was the back problems caused by sleeping in hammocks. The fathers of the babies with cradles were from other states.

One could see a clear relationship between "wealth" and the number of belongings. The wealthier families had more space and more furniture and objects. We observed great similarity in the way of life, but with differences in the quality of life.

85% of the houses were tidy and clean. This percentage is a little higher than the 80% found in the urban area of the city of São Paulo (Rabinovich, 1992) and the 75% of the "homeless" (Rabinovich,1994).

The house could be said to be decorated according to three principal centres of interest: the sacred, the profane and the modern. Eighteen houses possessed a item of furniture called the "bilheira", a table with two "bilhas" or large earthenware jugs for holding water. Above these there was a shelf on which polished aluminium mugs were displayed, usually with a ladle, also polished, among them which was used to get water from the bilhas. This piece of furniture was usually decorated with plastic mats made from recycled material or from plastic cut to shape.

The sacred was represented by the pictures of saints and photographs of the family.

The "altar" classed as modern was made up equally by "shrines", dedicated areas which drew attention to the object-symbol in question: toothbrushes, TVs, radios. Following the same line of thinking, one noticed that they made used of wrappers and boxes as decorative elements.

The Children

The System of cares

The system of cares over children, in the studied region, consists of a system of help provided by the network of grandmothers and/or by the network of children, who are the baby's sisters or aunts. Only six mothers took care of their children by themselves; they had one or two children. Generally, a sister aged between 6 and 12 is in charge of carrying the baby in her arms while the mother is busy with household duties. The girl takes charge of all the cares if the mother is collecting coconuts. The grandmothers seem to be in charge of

more delicate tasks, such as bathing the baby - to avoid infections caused by water entering into the inner ear - or feeding the baby and looking after it while the mother is not at home.

The girl starts taking care of the baby when "its neck is firmer". However, she may take charge of the baby before this happens, if the mother needs to work. Thus, the girl may start looking after the baby when she is 4 or 5 years old.

Some interviewed girls did not seem to enjoy this task, as they became tired of carrying the baby in their arms, specially when it had already grown a little. Nevertheless, some mothers said they liked the task very much and that they took the mothers' place - the baby liked the girl better than its own mother.

When there are many daughters or aunts, the older ones are in charge of household duties, such as cooking, making manioc meal and helping to collect coconuts. Due to this, in all the houses, the child was watched over by girls (and also by a boy) belonging to an intermediate age group.

The girls are monitored in relation to the cares; for example: "take the baby because it's crying", "take it for a walk", "sit down and play with him", etc. They play and sing with and to the babies, but according to what was observed, they essentially perform tasks.

The fathers were present in many interviews. They answered questions destined to the mothers, sometimes disagreeing with them, and they looked after the children during the long interview. Many fathers told the interviewers that they look after the children when the mother is absent, but only one mother confirmed this.

In general terms, they do not strike small children and do not let them cry. The girls may take care of the baby when it cries, but when there are not any girls available, the mother may not interrupt what she is doing to lull the child: six mothers do not comfort the baby when it cries, fourteen mothers offer something to eat and thirteen comfort it in some way.

The mother's attachment to her baby could also be verified when they related how they felt when they were away of their children: "I missed some of him. Because my love for him during the day is little, my love is far away"; "it's good staying near because I like my boys"; "he cries. I feel very connected, very connected indeed"; "working is no good because the mother isn't there, she is a mother who can't breast-feed"; "I don't like being away because he likes his mother"; "I think I feel he's here and I'm there: this littleone is hungry and I know he resents it"; "I was sorry for having to leave him, I even cried in the woods". The majority of the mothers reacts less intensely, worrying about the child's safety when they are absent. Two mothers react differently: one does not care, as she has a father and a husband who are drunks, and the other, whose husband abandoned her, thinks that "working is good, because they have to eat, and I'm the one who gets the food".

The understanding of autonomy and of exploration of the environment as constituents of development was studied taking three items into consideration: whether the child is allowed to move away from the adult, to handle objects of the house and what is the parents' opinion about the child having freedom to go out and play. There were very few objects inside the houses and the children were kept indoors due to fear of what could happen if they went out. Besides, they could not touch the objects of the house, except their own toys. However, they had few toys. Yarrow (1977) showed that the variety of inanimate stimulation is related

to exploratory behaviour. They do not stimulate neither their children's exploratory behaviour nor "freedom", because if they do,the child "does whatever he wants", "he doesn't obey anymore", "we can't control him anymore", that is, the children's autonomy is seen as a threat to the parents' authority.

There were routines in all the cases, except with three newborn children and a bigger child. The routines varied from family to family, within certain common patterns. Although the children's activities were not rigidly determined, they were clearly described and pre-established.

Feeding

It is possible to say that 21,4% of the children were prematurely weaned, while 46% were weaned after the first year of life. Among the 28 children up to three years old, 13 children were still being breast-fed. From these, 6 were up to four months old and the others were aged between 9 months and 2 years and 10 months. Among the weaned ones, six were weaned when they were up to 3 months old, six between 6 and 9 months old and three when they were between 1 and 2 years old.

Weaning was generally determined by the mother (10), due to a pregnancy (6) or to perturbation of the mother's sleep (2) or to prevention of maternal weakness (4). Pregnancy would determine a kind of milk inadequate to the child's consumption. When it is said that the child determined the weaning, it is because the milk is weak. The age of weaning seems to be related to the mother's availability to breast-feeding, which is influenced by the mother's work/tiredness, by the beginning of a new pregnancy and by the mother's age: older mothers tended to breast-feed during a longer period of time, apparently because of bad experiences in their previous pregnancies, while younger mothers interrupted breast-feeding earlier, attributing weaning to the child.

In most cases, the mother breast-feeds when the child cries (18), but many mothers (7) did it before the children cried because they knew they were hungry, "I saw that the belly was empty", or "the girl noticed that the child went hunting, and then she gave the baby to the mother." Apart from these two schemes, a third one occurs, sometimes concomitantly: the scheduled breast-feeding (9). The child is breast-fed according to a pre-established timetable: for example,10a.m.,1p.m.,5p.m. and at night, or in the morning, in the afternoon, in the evening. Weaning tended to occur later when the mother associated a method other than the child's cry (either the anticipation to the cry or the establishment of a timetable). This was probably due to the mother's greater availability and diligence towards breast-feeding.

Breast-feeding is perceived by the mothers as an important factor to growth and health in terms of disease prevention. The growth of the teeth is always emphasized, probably because intestinal disarrangement is associated to it. Only one mother, who had completed High School, related that breast-feeding is important because "it's like I'm giving love, good for me and for him."

There are no special feeding routines: only three mothers sing to stimulate their children to eat. Since they are very young, the babies' feeding is complemented by the "gomoso" - a mixture of flour and water - which can be given initially through the mother's finger and,

afterwards, in the baby's milk bottle. The "gomoso" is introduced as a regular practice. There was only one case of a one-month-old baby, whose father came from another Brazilian state and whose mother was in High School, in which the parents refused to give the "gomoso". The grandmother, in whose house the couple lived, disagreed with it: "we don't know what the child is feeling. That's why I gave her the milk bottle - she learned to eat and to feed herself better. They (the parents) don't want to give the "gomoso" because they think the child will get sick."

Probably, all the breast-fed children start to receive another kind of food when they are one month old, or even earlier. The "gomoso" is given until the child is approximately 1 year and 8 months old. When the child is one year old he/she already eats "food from the pan", together with milk bottles. Intermediately, the child is fed with rice soup and smashed fruit.

The question of breast-feeding and supplementary feeding is intimately associated with the ecosystem and the way of life. According to a mother, the introduction of the "gomoso" is necessary because "our food is weak, it's no good", either to feed the child or because it takes some of the mother's energy. "I won't be able to breast-feed during a long time because I will get weak", that is, I don't sleep well, and I have to resume the collection of coconuts.

It was possible to verify that the milk and the food are given during the day, and child is breast-fed at night or when the mother is at home. Breast-feeding at night seems to reinforce the link mother-child, and even father-child, as well as sleeping together.

Scheduled breast-feeding reinforces the thesis that the child must adapt to the adults' rhythms, and not the contrary. Nevertheless, the concern about guaranteeing the child's survival determines a sometimes continuous breast-feeding, which, together with the anticipated one, represent the mother's effort to guarantee the baby's survival.

According to a mother: "when the child is one year and a half, he already receives his plate and his spoon. Before, the mother held the plate and put the food in the child's mouth. She sat on a stool and the child on another one, or on the floor." When the child is aged between one and two, he/she eats by him/herself.

In general terms, the children eat together, and each one of them has his/her own plate and spoon. Some mothers insist that the children must eat using a stool as a table, or using another stool: one for seating on and the other as a table; but in more retired places, where there is no furniture, people eat on the floor.

It is possible to say that there is a "traditional" pattern, consisting of weaning after one year of age, "gomoso" since birth and premature (around 6 months of age) introduction of adult's food without intermediation of other kinds of food; and a "modern" pattern, with juices, fruit, milk bottles, breast-feeding with weaning before one year of age and introduction of solid and salted food through soups. Generally, intermediate patterns were observed.

Sleeping

The studied children slept in their parents' room, as well as their brothers and sisters who were up to 4 or 5 years old. Parents slept only with the youngest child except in three cases

in which the parents and two children slept together and one case in which the three children of the house and their parents slept together.

Eight couples slept in double beds, three mothers in single beds and two babies, in cradles. All the rest slept in hammocks. The baby's hammock was always near the mother except in the case of double beds, in which it could be hanged transversally. In many cases, the hammock was between the parents' hammocks.

Ten mothers followed some kind of special bedtime routine: singing, rocking the baby in the hammock or in their arms, breast-feeding. Three children presented sleeping problems: two of them because they sucked at their mother's breast during the whole night and the third one had difficulties to fall asleep. All the others fell asleep as soon as they lay down. The children went to bed when they were sleepy, generally before the family, but sometimes they did it together with the family, or even after. Bedtime was not considered more important than the other daily activities, even for the mothers with special bedtime routines.

The presence of cradles indicated intermediate situations between two cultures. These children's father's came from another state. A mother whose baby had a cradle said that she rocked it in the hammock while singing a song - "it's the baby's tenderness" - before putting it in the cradle. The other mother reported that she will try to accustom her one- month-old daughter to the cradle and the hammock. Therefore, mothers and babies are undergoing a process of acculturation.

One of the cradles had a mosquito net and was inside a room decorated with a dressing table, a fan, a chest of drawers and a chair; these objects were not seen in the other houses. This couple wanted to move from Piaui.

The other cradle was decorated with ten ornaments, each one of them given by a different relative, but the mother was under a "crossfire" caused by two grandmothers and the whole family, which was very big and functioned collectively. According to the grandmother, the child will prefer the hammock. There is a clear cultural and power conflict, the centre of which is occupied by the baby and its magnificent cradle.

Having a bed also seemed to be connected with status, although the only reason presented was the search for comfort and the attempt to avoid spine problems.

Sleeping in hammocks raises a question that is dealt with in the studies about "cosleeping" (McKenna et al,1993,Morelli et al, 1992). These studies are demonstrating the importance of cosleeping to the development of the child, and even to the prevention of a disease that attacks children during their sleep (SIDS - Sudden Infant Death Syndrome). When the mother is disturbed while sleeping by the baby's movements, she reacts moving the baby, even semi-consciously. This external regulation would adjust the still immature internal regulation of thermal and respiratory mechanisms. Children who sleep in cradles, in separate rooms, would be exposed to a premature separation that could potentially put their lives in danger. The cosleeping practice would be under the service of children survival, existing in approximately two thirds of the nations (Whiting, 1981). Thus, a practice which was prohibited by the European and North-American dominating cultures starts to be seen in a different way, and the cradle culture begins to be questioned by science.

Similarly to the research carried out with the Mexican Mayas (Morelli, 1992), Piaui's parents became horrified with the idea of the child sleeping separately from them: "by sleeping in the middle, the child feels protected by the two of us; he feels we're taking care of him. If he were separate, he'd feel despised.". Physical proximity during the night is necessary for safety reasons: to protect the baby, to attend on it, to aid, to take care of it. On the other hand, they emphasize that the child does not know how to communicate, he/she "is dull, dumb", "he isn't smart, he doesn't say what he's feeling". The separation of rooms at the age of five is based on the fact that the children have become curious and smart, not to mention the fact that they already have a younger brother or sister. There was no explicit mention to the child's interest in the parents' sexual activity.

A third and fundamental element was thus enunciated: "separating wasn't right because the mother would have to get up and also he wouldn't think we were his parents because he wouldn't see us near". Taking into consideration the link between the babies and the mothers/girls/ grandmothers, it is reinforced both by the nightly breast-feeding and by cosleeping, and the partners recognize each other every night.

Finally, the explanation of cosleeping: "I don't sleep directly. I'm afraid. If he moves, I wake up right away. I touch him. That's the way it is."

The youngest son sleeps with his parents, by the mother's side. There was only one case in which the eldest daughter slept nearer the mother than the second son, because the girl was scared during the night. The youngest son slept by the mother's other side. That is, as they grow up, they sleep farther from the mother.

There seems to be a preparation for the separation, in case another child is born. As the child is strongly linked to an older sister, he begins to sleep next to her. In the case he is the last son, he may stay in his parents' room until he is 9 years old or more.

Maybe "weaning the child from sleeping with the parents" has a deeper meaning, in this culture, than weaning him from breast-feeding. Breast-feeding problems manifested themselves as sleeping problems: "he sucks nonstop all night and sleeps over me." It is possible to conclude that all the affection, attention and assistance that are not given to the child during the day, due to the mother's lifestyle, are given during the night.

The hammock culture is different from the sling culture or from the cradle one. In the sling culture, mothers carry their children all the time, and sleep with them. The cradle culture tends to stimulate the autonomy, but, at the same time, the baby is "weaned from sleeping" as soon as it is born (Rabinovich, 1992). The hammock culture seems to be intermediate between these two poles, for it includes carrying and settling, it is nomad and fixed.

Whiting (1981) called the dynamics caused by the use of a cradle "ambivalent dependence", as opposed to "symbiotic identification", which characterizes children from the sling culture: they are permanently carried by the mother until they learn how to walk, and even afterwards. The hammock culture seems to be intermediate between the other two: it is not symbiotic, as it separates mother and child since birth, giving the child a substitute "womb" - the hammock - , which is an object in and of the world to which the child belongs. At the same time, it does not require the children's independence, provoking the "anxious dependence", as the mother breast-feeds many times, almost continuously, and sleeps with

the child, promptly giving him attention and, afterwards, establishing the system "hammock-lap".

"Toilet" "training"

In comparison with the urban area, this is the most differentiated aspect in terms of educational practice. The expression "toilet training", which is generally given to such practices, does not apply to this study, since there is neither toilet nor training (in the sense that this term is generally used).

The control of the sphincters, or "handling of excreta", was consistently described by almost all the mothers. When the baby is six months old, it no longer wears nappies, because "the child is already crawling" and "the cloths tear and no one cares to buy more." Only one child wore nappies until he was two years old, because he "pooed a lot".

Nappies are substituted by panties or shorts, but during the day the child stays naked. The child defecates "wherever he wants". "During the day, he does it on the floor. We go there and wipe the floor. (...) We bath the child." The same procedure is followed at night: "When he does it at night, I take the cloth off and leave it aside to be cleaned. If he does it in the hammock, I hang a clean one.". "I never got angry with him because he was small and he didn't know anything". No mother manifested the slightest sign of any emotion, positive or negative, concerning the handling of excreta or of the dirt caused by them.

When the child starts walking, something like an apprenticeship can be initiated. Seven mothers said that they did not teach the child anything and seven mothers said that they did, that is, they explained where to defecate, they went there with the children, they showed them how to do it.

However, this "apprenticeship" seems to occur so naturally and without conflicts that it seems to be more of a spontaneous acquisition than an "adaptation" to educational practices. More than half of the children, for example, do not defecate at night, after the nappies were removed (at the age of 6 months); they no longer urinate at night when they are 1 year old. When they are two years old, they already dominate the evacuation process in some way, but this process is completed only when they are four years old. The older children in the research already "went in the bush"; some of them were able to clean themselves alone and some were not able to do it yet.

The two more experienced and older mothers said they more or less anticipated themselves, presenting the night pot to the child or putting the child on their own semi-opened legs when he or she manifested signs of discomfort, thus initiating a communication system that would be impossible with the presence of nappies. According to one of the mothers, whose house has a latrine, "when they are 2 or 3 years old, you teach them speak poo-poo and then, as they're wearing shorts, you take them off and take the child to the site, bacause he's already naked; with nappies, no way." To use the latrine they must wear shoes and they cannot go alone until they are 3 years old, "because they may put their feet in the hole. He hasn't peed at night for more than a year (boy, 2 years and a half). He pees before going to bed and when he gets up. When he got up at night, I put him on my lap and he peed in the night pot that was on the floor. (...) He doesn't pee in the hammock, on the floor, nothing. During the

day, he pees on the floor. We let him do it because it soaks the ground and it can do no harm. He stopped doing poo-poo early, when he was 8 months old. I took him in my arms and he pooed. They go alone and do it in the woods, wherever they feel like doing. (...) I think he stopped at a good age, because his organism was more efficient, safer. With the girls (the elder daughters), they didn't give signs and they stopped later, and he always gave signs."

Concerning the cradle, it tends to be accompanied by the "plastic shorts", which determines a different handling of the individual's relation with his body. Just like the cradle, the plastic shorts would determine changes in cultural patterns.

Behind these practices, there is a notion of body and nature not "contaminated" by the hygienic and bourgeois view. Poster (1979) argues that, with the formation of bourgeoisie, both the habits of hygiene and cleanliness, and the greater dependence in which the child is kept, were prioritized. Gomes (1988) describes how maternal worries shift from indenpendence to cleanliness when the family moves from the rural area to the city.

In the analysed population, cleanliness exists in the form of cares: children are bathed approximately five times a day, the houses are clean and tidy. In this case, cleanliness is not determined by the notion of hygiene; it is governed by the notions of welfare and health; it does not imply prevention of diseases.

Although independence in daily activities is prematurely acquired, autonomy does not seem to be a cultural value. This is indicated by the fact that no opportunities are offered to exploratory activities, and also by the idea that the freedom given to the children would take away the parents' authority. Nevertheless, autonomy is seen as something necessary to the development of sociability, "so that he doesn't become a *matuto*[4] like his father". As the child is raised within the domestic environment, among his relatives, being a *matuto* means not having varied social roles (not taking level of education into account), which could lead to shyness.

On the other hand, the analysis of attachment reveals a social group in which many people, including children, take care of the baby. The composition of the residence group affects development through the impact of these people on the mother and on the child (Crisholm, 1981). The analysed families have a double characteristic: except for four large families, they are nuclear families which, due to the social-familial context, function as extended families, in higher or lower levels. In familial agglomerations, this occurred intensely, whereas in the other ones, there was always one or more relatives living next door or nearby.

Tronick, Ivey and Morelli (1992) studied the pygmies. Their children are brought up within a pattern of multiple and simultaneous relations. The authors concluded that this kind of experience leads to a sense of self that incorporates other people. The suggestion of a self formed through multiple social experiences and through the constant presence of other people can be applied to the majority of children of the observed houses. Tronick et al (1992) believe that this can make them depend more on others to provide their regulation, in opposition to children who are left alone and must elaborate their own regulatory capacities, independently of other people. These characteristics would make them lose the sense of self

[4] Said of a person who lives in the countryside; he or she generally is simple-minded and shy.

when they are not in the presence of other people, and when they become adults, with the thought of being alone. This last aspect was observed through the fact that parents completely rejected the idea of the children sleeping alone.

According to the Maya people (in Morelli, 1992), the relations adopted when sleeping together with the babies may be associated with the babies learning about those who are near him. Thus, these relations would have a socialization value, contrasting with the American group, which emphasizes that children should be trained to be independent. This training would include self-consolation and self-regulation, but it would generally be complemented by objects that substitute people, assuming their roles (Rabinovich, 1993; Morelli, 1992). The objects are offered to the children, who feel attached to them and not to people. Therefore, the arrangements to sleep reflect the goals and values of interpersonal relationships: the hammock culture favours relationship and interaction - sociocentred - and the cradle culture, apart from offering material substitutes to human absences, favours, as a goal, self-confidence and independence - egocentred.

The educational practices in the rural area of the state of Piaui have shown a way of raising children based in interdependence between people and also between people and nature.

Conclusion

This is an exploratory study that aims at describing and indicating some aspects of the developmental niche. Among these aspects, it is possible to find: people are the most important inside the house: there are almost no objects and the child cannot handle the few existing ones; the way in which the mother raises the child is affected by the presence of other people, including other children (these people help to take care of the child); the fact that the child is looked after by other children implies that the offered situations are partly determined by these children; the hammock and the arrangements to sleep interfere in the upbringing through cosleeping and the handling of evacuation; the ground, the absence of running water and toilets result in a sphincter control very different from the one of a child who lives in a city; the wide family network, apart from providing the mother with a supporting network, makes the child be in contact with other adults and children; the parents' subsistence activities affect the child in many ways - one of them is that it determines that other people look after the child, and another one is that the child begins to perform these same activities precociously.

However, the most important conclusion is that it is an ecosystem that still functions in an integrated way, although it presents signs of acculturation or even of more violent processes, like, for example, the slaughter of women who break coconuts, caused by labor questions between landowners and the people who live in their lands (refer to the newspaper *O Estado*, Teresina, October 14th, 1993, Geral 6). The presence of double beds, cradles and televisions point to an acculturation process, either as a social or as a psychological phenomenon. The future presence of a toilet inside the house will imply in customs that will alter the system of cares. The question is: which system of values will substitute the current one?

A second line of conclusions refers to the disaggregation of the family, caused by factors that affect the father, such as lack of working opportunities or alcoholism, what makes the

mother overwork; the child is also affected. The lack of social support in a situation of a prolonged drought results in migration and family disaggregation.

A third line of conclusions concerns the representation and the perception of the child as a being without comprehension. Due to this, the child is not intellectually stimulated; he or she does not receive incentives to acquire autonomy in the sense of obtaining self-determination, self-confidence and self-esteem. Family structure based on the father's legal authority over his minor children implies that submission and non-questioning are the stimulated and culturally desired values.

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